CLAIMS

1/ A method of stripping an optical fiber, the method comprising the steps consisting in:

- locally and mechanically removing a portion of the outer covering of the fiber;
- placing a chemical solvent on the periphery of said zone of the fiber; and
- mechanically removing the covering(s) weakened in this way.

2/ A method according to claim 1, wherein the step of locally and mechanically removing a portion of the outer covering of the fiber is a step of cutting off a shaving of the covering.

3/ A method according to claim 1, wherein the step of locally and mechanically removing a portion of the outer covering of the fiber is implemented using a blade extending at an angle of less than 30° relative to the axis O-O of the fiber.

4/ A method according to claim 1, wherein the fiber is previously positioned in a precision V-shape.

5/ A method according to claim 1, further comprising the steps consisting in making an incision in the covering of the fiber, slightly outside the previously stripped zone, using a blade that is positioned perpendicularly to the axis of the fiber, and in eliminating the covering segment defined in this way.

6/ A method according to claim 5, further comprising the step which consists in establishing relative rotation between the blade and the fiber, prior to eliminating the defined segment of covering.

7/ A method according to claim 5, further comprising making two incisions in the covering of the fiber respectively at each end of the previously stripped zone.

8/ A method according to claim 5, wherein the step of eliminating the incision-defined segment(s) of covering includes the step of mechanically moving said segment towards the center of the stripped zone, e.g. by urging it by means of the cutting blade.

9/ A method according to claim 5, wherein the step of removing the segment defined by an incision comprises depositing a chemical solvent.

10/ A method according to claim 1, wherein each blade used is positioned accurately so as to avoid touching the assembly constituted by the core and the cladding of the fiber.

11/ A method according to claim 1, further comprising a step of mechanically removing a portion of fiber covering that has previously been weakened by chemical etching, by using a jet of dry air.

12/ A method according to claim 1, further comprising a step of mechanically removing a portion of covering previously etched by chemical solvent, by using a brush dipped in ethanol.

13/ A method according to claim 1, further comprising the step of mechanically removing a portion of fiber covering previously weakened by chemical etching, by using an ultrasound bath.

14/ An optical fiber partially stripped by implementing a method according to claim 1.

15/ A fiber according to claim 14, wherein the stripped zone is an intermediate zone of the fiber.

16/ A fiber according to claim 14, wherein the stripped zone is an end zone.

17/ A fiber according to claim 14, wherein the fiber includes a Bragg grating in its stripped zone.

18/ A machine for stripping an optical fiber by implementing the method according to claim 1, the machine comprising means suitable for locally and mechanically removing a portion of the outer covering of the fiber, and means suitable for mechanically removing the covering from the periphery of the corresponding zone of the fiber, after the covering has been weakened by using a chemical solvent.

19/ A machine according to claim 18, further comprising means for depositing a chemical solvent on the periphery of the treated zone of the fiber.

20/ A machine according to claim 18, further comprising means suitable for fixing an optical fiber, and means suitable for guiding cutting tools in rotation about the fiber.

21/ A machine according to claim 18, further comprising means suitable for fixing an optical fiber under constant tension.

22/ A machine according to claim 18, further comprising cutting means suitable for successively planing the outer surface of the fiber making a partial cut extending generally transversely to the axis of the fiber.

23/ A machine according to claim 18, further comprising a bedplate carrying two means for fixing an optical fiber, a planing module, and a module for shaping interfaces by cutting the optical fiber transversely.

24/ A machine according to claim 18, further comprising blowing and/or sucking means for removing the waste to be removed.

25/ A machine according to claim 18, including a microscope.

26/ A machine according to claim 18, further comprising two slides suitable for sliding in two orthogonal directions relative to a bedplate, a first slide having cutting tools itself being slidably mounted on the second slide.

27/ A machine according to claim 18, including a planing tool and a tool for shaping interfaces, both tools being secured to a common slide.

28/ A machine according to claim 18, including fixing means in the form of a clamp.

29/ A machine according to claim 18, including fixing means defining a system for guiding and centering a fiber.

30/ A machine according to claim 18, including fixing means defining a system for guiding and centering a fiber, said system being in the form of at least one pair of projecting pegs.

31/ A machine according to claim 18, including fixing means in the form of a clamp comprising a strip of

material having a high coefficient of friction on one of its jaws.

32/ A machine according to claim 18, including at least one fixing means suitable for moving on a carriage urged along the axis of the fiber under constant force.

33/ A machine according to claim 18, including at least one fixing means suitable for moving on a carriage connected to a weight via a cord passing over a pulley.

34/ A machine according to claim 32, including means suitable for selectively preventing the carriage that supports the fixing means from moving.

35/ A machine according to claim 18, including a planing module having a fiber support provided with a positioning groove of V-shaped right section.

36/ A machine according to claim 35, wherein the fiber support is mounted to move vertically in controlled manner relative to a planing blade.

37/ A machine according to claim 35, wherein the groove leads to a flat.

38/ A machine according to claim 35, wherein the fiber support is mounted to rotate on a post about an axis parallel to the axis of the fiber.

39/ A machine according to claim 35, wherein the fiber support is interchangeable.

40/ A machine according to claim 35, wherein the fiber support includes at least one end plate provided with a V-notch at one of the ends of the groove.

41/ A machine according to claim 35, wherein the fiber support has a plurality of grooves of different depths adapted to the outside diameters and covering thicknesses of fibers to be treated.

42/ A machine according to claim 35, wherein the fiber support is associated with an eccentric for displacing it.

43/ A machine according to claim 18, including a module for shaping interfaces, the module comprising a part having means for receiving a fiber, means for aligning and coming into abutment with a cutting blade, and a part which carries at least one cutting blade.

44/ A machine according to claim 43, wherein the part which carries at least one cutting blade can be actuated to rotate about the fiber.

45/ A machine according to claim 43, wherein the part which carries at least one cutting blade is capable of being actuated to move in translation parallel to the fiber.

46/ A machine according to claim 43, wherein the shaping module includes a plurality of parallel cutting blades.

47/ A machine according to claim 43, wherein said two parts are hinged like a clamp.

48/ A machine according to claim 43, wherein the part including fiber-receiving means presents a V-groove of depth adapted to the diameter of the fiber.

49/ A machine according to claim 43, wherein the two parts are mounted on a block which is mounted to rotate

on a base carried by a slide capable of moving in translation parallel to the axis of the fiber.

50/ A machine according to claim 49, including an intermediate slide mounted to move in translation on the first-mentioned slide transversely to the axis of the fiber and itself carrying the base.

51/ A machine according to claim 43, wherein the shaping module includes a removable fiber-positioning part.

52/ A machine according to claim 18, including removable blade-carrier blocks.

53/ A machine according to claim 18, including means for adjusting the inclination of cutting blades.

54/ A machine according to claim 18, including heating cutting blades.

55/ A machine according to claim 18, including stops limiting the amplitude of the displacement of the slides carrying the cutting tools.